ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

BRUHATH BANGALORE MAHANAGARA PALIKE

Name of Work: **Improvements to Concrete Roads in Gatepalya Shettyhalli in Ward No.12, Shettyhalli Sub Divison.**

E-MEASUREMENT BOOK

First & Final Bill

Name of Contractor: M/s KRIDL

Estimated Cost: Rs.75.00 Lakhs

Office of the
Asst.Executive Engineer
Shettyhalli Sub Division
Bruhath Bangalore Mahanagara Palike
Bangalore

Scanned with CamScanner

BRUHATH BANGALORE MAHANAGARA PALIKE
DASARAHALLI ZONE

Name of work : Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

First and FinalBill

Measurement Recorded in :

Sl. No	Description of work	Chainages		No	L	B1	B2	D	Qty
1	KSRRB M300-59.2. Loosening, levelling and compacting original ground supporting embankment to facilitate placement of first layer of embankment I subgrade, scarified to a depth of 150mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density as given in Table 300-2 for embankment/subgrade including HOM construction, labour etc.. complete as per specifications. MORTH Specification No. 305.3.4 (PW,P& IWTD SR 2018-19, Pg No 147 Item No.19.66)								
	Towards SWD Culvert			1	6.00	7.00	7.00		42.00
	SWD Culvert to End	0	15	1	15.00	9.10	11.20		152.25
		15	30	1	15.00	11.20	11.70		171.75
		30	45	1	15.00	11.70	12.20		179.25
		45	60	1	15.00	12.20	12.40		184.50
		60	75	1	15.00	12.40	12.50		186.75
		75	90	1	15.00	12.50	11.40		179.25
		90	105	1	15.00	11.40	11.70		173.25
		105	120	1	15.00	11.70	11.00		170.25
		120	135	1	15.00	11.00	7.60		139.50
		135	150	1	15.00	7.60	8.30		119.25
		150	165	1	15.00	8.30	8.60		126.75
	NEW CULVERT TO WELDING SHOP								
		165	180	1	15.00	7.00	7.00		105.00
		180	195	1	15.00	7.00	7.00		105.00
		195	210	1	15.00	7.00	7.00		105.00
		210	225	1	15.00	7.00	7.00		105.00
		225	240	1	15.00	7.00	7.00		105.00
		240	244	1	4.00	7.00	7.00		28.00
	WELDING SHOP TO RETAINING WALL								
		244	267	1	22.00	7.00	7.00		154.00
								Total	**2531.75**
									Sqm

Assistant Engineer
Ward No.12
BBMP, Bengaluru
04/4/2020

Assistant Executive Engineer
Shettyhalli Sub Divison
BBMP, Bengaluru

Scanned with CamScanner

BRUHATH BANGALORE MAHANAGARA PALIKE
DASARAHALLI ZONE

Name of work : Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

First and FinalBill

Measurement Recorded in :

Sl. No	Description of work	Chainages		No	L	B1	B2	D	Qty
2	KSRRB 300-58. Compaction of original ground by mechanical means including filling in depression occuring during rolling including cost of all labour, HOM complete as per specifications. MORTH I Chapter 3 (PW,P& IWTD SR 2018-19, Pg No 147 Item No.19.64)								
	Towards SWD Culvert			1	6.00	7.00	7.00		42.00
	SWD Culvert to End	0	15	1	15.00	9.10	11.20		152.25
		15	30	1	15.00	11.20	11.70		171.75
		30	45	1	15.00	11.70	12.20		179.25
		45	60	1	15.00	12.20	12.40		184.50
		60	75	1	15.00	12.40	12.50		186.75
		75	90	1	15.00	12.50	11.40		179.25
		90	105	1	15.00	11.40	11.70		173.25
		105	120	1	15.00	11.70	11.00		170.25
		120	135	1	15.00	11.00	7.60		139.50
		135	150	1	15.00	7.60	8.30		119.25
		150	165	1	15.00	8.30	8.60		126.75
	NEW CULVERT TO WELDING SHOP								
		165	180	1	15.00	7.00	7.00		105.00
		180	195	1	15.00	7.00	7.00		105.00
		195	210	1	15.00	7.00	7.00		105.00
		210	225	1	15.00	7.00	7.00		105.00
		225	240	1	15.00	7.00	7.00		105.00
		240	244	1	4.00	7.00	7.00		28.00
	WELDING SHOP TO RETAINING WALL								
		244	267	1	22.00	7.00	7.00		154.00
								Total	**2531.75**
									Sqm

Assistant Engineer
Ward No.12
BBMP, Bengaluru
05/11/2020

Assistant Executive Engineer
Shettyhalli Sub Divison
BBMP, Bengaluru
5/11/20

Scanned with CamScanner

BRUHATH BANGALORE MAHANAGARA PALIKE
DASARAHALLI ZONE

Name of work : Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

First and FinalBill

Measurement Recorded in :

Sl. No	Description of work	Chainages		No	L	B1	B2	D	Qty
3	KSRRB M300-14. Excavation for roadwork in all types of soil by mechanical means including cutting and loading to tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transportation with a lead of 1.00 km and complete as per specifications. MORTH Specification No.301 (PW,P & IWTD SR 2018-19, Item No.19.14, Page No.143)								
	Towards SWD Culvert			1	6.00	7.00	7.00	0.30	12.60
	SWD Culvert to End	0	15	1	15.00	9.10	11.20	0.30	45.68
		15	30	1	15.00	11.20	11.70	0.30	51.53
		30	45	1	15.00	11.70	12.20	0.30	53.78
		45	60	1	15.00	12.20	12.40	0.30	55.35
		60	75	1	15.00	12.40	12.50	0.30	56.03
		75	90	1	15.00	12.50	11.40	0.30	53.78
		90	105	1	15.00	11.40	11.70	0.30	51.98
		105	120	1	15.00	11.70	11.00	0.25	42.56
		120	135	1	15.00	11.00	7.60	0.25	34.88
		135	150	1	15.00	7.60	8.30	0.25	29.81
		150	165	1	15.00	8.30	8.60	0.25	31.69
	NEW CULVERT TO WELDING SHOP								
		165	180	1	15.00	7.00	7.00	0.25	26.25
		180	195	1	15.00	7.00	7.00	0.25	26.25
		195	210	1	15.00	7.00	7.00	0.25	26.25
		210	225	1	15.00	7.00	7.00	0.25	26.25
		225	240	1	15.00	7.00	7.00	0.25	26.25
		240	244	1	4.00	7.00	7.00	0.25	7.00
								Total	**657.89**
				Limited to Tendered Qty					**634.50**
									Cum

Assistant Engineer
Ward No.12
BBMP, Bengaluru
06/11/2020

Assistant Executive Engineer
Shettyhalli Sub Divison
BBMP, Bengaluru
6/11/20

Scanned with CamScanner

BRUHATH BANGALORE MAHANAGARA PALIKE
DASARAHALLI ZONE

Name of work : Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

First and FinalBill

Measurement Recorded in :

Sl. No	Description of work	Chainages		No	L	B1	B2	D	Qty
4	KSRRB M300-53. Construction of embankment with approved material Gravel/Murrum with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement Table 300-2 complete as per specifications, including cost of gravel I murrum, watering charges & compaction by vibratory roller to 95% of modified proctors density. MORTH Specification No. 305 (PW,P& IWTD SR 2018-19, Pg No 147 Item No.19.60)								
	Towards SWD Culvert			1	6.00	7.00	7.00	0.30	12.60
	SWD Culvert to End	0	15	1	15.00	9.10	11.20	0.35	53.29
		15	30	1	15.00	11.20	11.70	0.35	60.11
		30	45	1	15.00	11.70	12.20	0.35	62.74
		45	60	1	15.00	12.20	12.40	0.35	64.58
		60	75	1	15.00	12.40	12.50	0.35	65.36
		75	90	1	15.00	12.50	11.40	0.35	62.74
		90	105	1	15.00	11.40	11.70	0.35	60.64
		105	120	1	15.00	11.70	11.00	0.30	51.08
		120	135	1	15.00	11.00	7.60	0.30	41.85
		135	150	1	15.00	7.60	8.30	0.30	35.78
		150	165	1	15.00	8.30	8.60	0.30	38.03
	NEW CULVERT TO WELDING SHOP								
		165	180	1	15.00	7.00	7.00	0.30	31.50
		180	195	1	15.00	7.00	7.00	0.30	31.50
		195	210	1	15.00	7.00	7.00	0.30	31.50
		210	225	1	15.00	7.00	7.00	0.30	31.50
		225	240	1	15.00	7.00	7.00	0.30	31.50
		240	244	1	4.00	7.00	7.00	0.30	8.40
								Total	**774.68**
				Limited to Tendered Qty					**761.40**
									Cum

Assistant Engineer
Ward No.12
BBMP, Bengaluru
13/11/2020

Assistant Executive Engineer
Shettyhalli Sub Divison
BBMP, Bengaluru
13/11

Scanned with CamScanner

BRUHATH BANGALORE MAHANAGARA PALIKE
DASARAHALLI ZONE

Name of work : Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

First and FinalBill

Measurement Recorded in :

Sl. No	Description of work	Chainages		No	L	B1	B2	D	Qty
5	KSRRB M300-55. Construction of sub-grade and earthen shoulders with approved material Gravel/Murrum with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of Table No. 300-2 complete as per specifications, including cost of earth, watering charges & compaction by vibratory roller to 97% of modified proctors density) MORTH Specification No. 305 (PW,P& IWTD SR 2018-19, Pg No 147 Item No.19.62)								
	Towards SWD Culvert			1	6.00	7.00	7.00	0.30	12.60
	SWD Culvert to End	0	15	1	15.00	9.10	11.20	0.35	53.29
		15	30	1	15.00	11.20	11.70	0.35	60.11
		30	45	1	15.00	11.70	12.20	0.35	62.74
		45	60	1	15.00	12.20	12.40	0.35	64.58
		60	75	1	15.00	12.40	12.50	0.35	65.36
		75	90	1	15.00	12.50	11.40	0.35	62.74
		90	105	1	15.00	11.40	11.70	0.35	60.64
		105	120	1	15.00	11.70	11.00	0.30	51.08
		120	135	1	15.00	11.00	7.60	0.30	41.85
		135	150	1	15.00	7.60	8.30	0.30	35.78
		150	165	1	15.00	8.30	8.60	0.30	38.03
	NEW CULVERT TO WELDING SHOP								
		165	180	1	15.00	7.00	7.00	0.30	31.50
		180	195	1	15.00	7.00	7.00	0.30	31.50
		195	210	1	15.00	7.00	7.00	0.30	31.50
		210	225	1	15.00	7.00	7.00	0.30	31.50
		225	240	1	15.00	7.00	7.00	0.30	31.50
		240	244	1	4.00	7.00	7.00	0.30	8.40
								Total	**774.68**
				Limited to Tendered Qty					**761.40**

Cum

Assistant Engineer
Ward No.12
BBMP, Bengaluru
18/11/2020

Assistant Executive Engineer
Shettyhalli Sub Divison
BBMP, Bengaluru
18/11

Scanned with CamScanner

BRUHATH BANGALORE MAHANAGARA PALIKE
DASARAHALLI ZONE

Name of work : Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

First and FinalBill

Measurement Recorded in :

Sl. No	Description of work	No	L	B	D	Qty
6	Providing T.M.T. steel reinforcement for R.C.C. work including straightening, cutting, bending, hooking, placing in position, lapping and/or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per disign (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM complete as per specification.					
	Railway track (SWD culvert to new culvert) Drain	1				3.46
	Railway track (SWD culvert to road end) Drain	1				0.69
	Railway track (SWD culvert to road end) Road	1				3.47
					Total	**7.62**
			Limited to Tendered Oty			**7.61**
	Reinforcement details are Enclosed (PTO)					**MT**

Assistant Engineer
Ward No. 12
BBMP, Bengaluru
02/11/2020

Assistant Executive Engineer
Shettyhalli Sub Divison
BBMP, Bengaluru
2/11/20

Scanned with CamScanner

BRUHAT BANGALORE MAHANAGARA PALIKE

SHETTYHALLI SUB DIVISION, DASARAHALLI

Name Of Work: Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

MEASUREMENT SHEET

Item No : 6

Item Name : KSRRB M2200-6. Providing T.M.T. steel reinforcement for R.C.C. work including straightening, cutting, bending, hooking, placing in position, lapping and/or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per disign (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM complete as per specification. MORTH Specification No.1600 & 2200 -do- TMT Bars Fe 500(PW,P& IWTD SR 2018-19, Pg No 18 Item No.4.46.2)

Steel Calculation of Reinforcement details for drain

SL. NO	CHAINAGE FROM	CHAINAGE TO	SIDE	BAR	No	BAR DIA (mm)	SPACING (mm)	TOTAL SPACING (mm) (L)	No. OF BARS ON EACH FACE No.	LENGTH OF EACH BAR (mm) : L.	SHAPE OF BARS (ALL DIMENSIONS ARE IN mm) (NOT TO SCALE)	TOTAL WT (kg)
Name of the Road: Railway track (SWD culvert to new culvert)												
1	0.0	(L) 178.0 Mt	RHS L=178	Main (Outer)	1	10	150	178000.0	1186.6667	2200.0	650, 650, 900	1609.270
				Dist. (Outer)	1	10	150	2200.0	11	178000.0	178000.0	1206.953
2	0.0	40.5 Mt	LHS (fencing side) L=40.5	Main (Outer)	1	10	150	40500.0	270	2200.0	650, 650, 900	366.154
				Dist. (Outer)	1	10	150	2200.0	11	40500.0	40500.0	274.616
											Total in Kgs	3456.99
											Total in Tonne	3.46

2/11

Scanned with CamScanner

BRUHAT BANGALORE MAHANAGARA PALIKE

SHETTYHALLI SUB DIVISION, DASARAHALLI

Name Of Work: Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

Item No : 6

MEASUREMENT SHEET

Item Name : KSRRB M2200-6. Providing T.M.T. steel reinforcement for R.C.C. work including straightening, cutting, bending, hooking, placing in position, lapping and/or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per disign (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM complete as per specification. MORTH Specification No.1600 & 2200 -do- TMT Bars Fe 500(PW,P& IWTD SR 2018-19, Pg No 18 Item No.4.46.2)

Steel Calculation of Reinforcement details for drain

SL. NO	CHAINAGE FROM	CHAINAGE TO	SIDE	BAR	No	BAR DIA (mm)	SPACING (mm)	TOTAL SPACING (mm) L	No. OF BARS ON EACH FACE No	LENGTH OF EACH BAR (mm) L =	SHAPE OF BARS (ALL DIMENSIONS ARE IN mm) (NOT TO SCALE)	TOTAL WT (kg)
Name of the Road: Railway track (SWD culvert to road end)												
1	0.0	(L) 37.6 Mt.	RHS L=37.6	Main (Outer)	1	10	150	37600.0	251 ✓	2200.0	650 650 900	340.388
				Dist. (Outer)	1	10	150	2200.0	15 ✓	37600.0	37600.0	347.662
											Total in Kgs	688.05
											Total in Tonne	0.69

2/11

Scanned with CamScanner

BRUHAT BANGALORE MAHANAGARA PALIKE

SHETTYHALLI SUB DIVISION, DASARAHALLI

Name Of Work: Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

MEASUREMENT SHEET

Item No : 6

Item Name : KSRRB M2200-6. Providing T.M.T. steel reinforcement for R.C.C. work including straightening, cutting, bending, hooking, placing in position, lapping and/or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per disign (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM complete as per specification. MORTH Specification No.1600 & 2200 -do- TMT Bars Fe 500(PW,P& IWTD SR 2018-19, Pg No 18 Item No 4.46.2)

Steel Calculation of Reinforcement details for Roads

SL. NO	CHAINAGE FROM	CHAINAGE TO	BAR	No	BAR DIA (mm)	SPACING (mm)	No. OF BARS ON EACH FACE	LENGTH OF EACH BAR (mm)	SHAPE OF BARS (ALL DIMENSIONS ARE IN mm) (NOT TO SCALE)	TOTAL WT (kg)
Name of the Road: Railway track (SWD culvert to road end)										
4	0.0	244.0	Main	1	10	1000	12	244000.0	244000	1804.881
			Dist	1	10	1000	245	11000.0	11000.0	1661.255
									Total in Kgs	3466.14
									Total in Tonne	3.47

02/11/2020

2/11

Scanned with CamScanner

BRUHATH BANGALORE MAHANAGARA PALIKE
DASARAHALLI ZONE

Name of work : Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

First and FinalBill

Measurement Recorded in :

Sl. No	Description of work	Chainages		No	L	B	D	Qty
6(a)	Earthwork excavation by manual means for roads, drains & similar works in ordinary soil excavated surface levelled and sides neatly dressed, the disposed earth to be levelled neatly after breaking of clods etc., MORTH / Chapter 3 complete as per specifications and as per the direction of Engineer-in-charge of the work. (PW,P& IWTD SR 2018-19, Pg No 143 Item No.19.10)							
	Railway track side from SWD Culvert to new culvert							
	LHS	0.0	30.0	1	30.0	1.30	0.40	15.60
		30.0	60.0	1	30.0	1.30	0.40	15.60
		60.0	90.0	1	30.0	1.30	0.40	15.60
		90.0	120.0	1	30.0	1.30	0.40	15.60
		120.0	150.0	1	30.0	1.30	0.40	15.60
		150.0	178.0	1	28.0	1.30	0.40	14.56
	RHS	0	30	1	30.0	1.30	0.40	15.60
		30	40.5	1	10.5	1.30	0.40	5.46
	Railway track side from SWD Culvert to Raghavendra layout road end							
	LHS	0	30	1	30.00	1.30	0.40	15.60
		30	37.6	1	7.60	1.30	0.40	3.95
							Total	**133.17**
								Cum

22/10/2020

Assistant Engineer
Ward No.12
BBMP, Bengaluru

22/10

Assistant Executive Engineer
Shettyhalli Sub Divison
BBMP, Bengaluru

Scanned with CamScanner

BRUHATH BANGALORE MAHANAGARA PALIKE
DASARAHALLI ZONE

Name of work : Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

First and FinalBill

Measurement Recorded in :

Sl No	Description of work	Chainages		No	L	B	D	Qty
7	KSRB 4-1.7: Providing and laying in position plain cement concrete of Mix 1:3:6 with OPC @ 220kgs, with 20mm and down size graded granite metal coarse aggregates @0.69 cum and fine aggregtes @ 0.56cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM curing complete as per specifications. Specification No. KBS 4.1, 4.2 (PW,P& IWTD SR 2018-19 P-13, I-4.7)							
	Railway track side from SWD Culvert to new culvert							
	LHS	0.0	30.0	1	30.0	1.30	0.18	7.02
		30.0	60.0	1	30.0	1.30	0.18	7.02
		60.0	90.0	1	30.0	1.30	0.18	7.02
		90.0	120.0	1	30.0	1.30	0.18	7.02
		120.0	150.0	1	30.0	1.30	0.18	7.02
		150.0	178.0	1	28.0	1.30	0.18	6.55
	RHS	0	30	1	30.0	1.30	0.18	7.02
		30	40.5	1	10.5	1.30	0.18	2.46
	Railway track side from SWD Culvert to Raghavendra layout road end							
	LHS	0	30	1	30.00	1.30	0.18	7.02
		30	37.6	1	7.60	1.30	0.18	1.78
							Total	**59.93**
			Limited to Tendered Qty					**57.11**
								Cum

Assistant Engineer
Ward No.12
BBMP, Bengaluru
23/10/2020

Assistant Executive Engineer
Shettyhalli Sub Divison
BBMP, Bengaluru
23/10

Scanned with CamScanner

BRUHATH BANGALORE MAHANAGARA PALIKE
DASARAHALLI ZONE

Name of work : Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

First and FinalBill

Measurement Recorded in :

Sl. No	Description of work	Chainages		No	L	B	D	Qty
8	KSRRB M2200-5.12. Providing and laying Design mix M25 with OPC cement @ 340kgs, with 20mm and down size graded granite metal coarse aggregates @0.7 cum and fine aggregates @ 0.47 cum, with superplastisiser @ 3lts confirming to IS9103-1999 Reaffirmed-2008. i) Upto 5 m height. (PW,P& IWTD SR 2018-19 P-227, I-28.7.12)							
	Drain Raft and Wall Concrete							
	LHS	0.0	30.0	1	30.0	1.30	0.15	5.85
				2	30.0	0.20	0.60	7.20
		30.0	60.0	1	30.0	1.30	0.15	5.85
				2	30.0	0.20	0.60	7.20
		60.0	90.0	1	30.0	1.30	0.15	5.85
				2	30.0	0.20	0.60	7.20
		90.0	120.0	1	30.0	1.30	0.15	5.85
				2	30.0	0.20	0.60	7.20
		120.0	150.0	1	30.0	1.30	0.15	5.85
				2	30.0	0.20	0.60	7.20
		150.0	178.0	1	28.0	1.30	0.15	5.46
				2	28.0	0.20	0.60	6.72
	RHS	0	30	1	30.0	1.30	0.15	5.85
				2	30.0	0.20	0.60	7.20
		30	40.5	1	10.5	1.30	0.15	2.05
				2	30.0	0.20	0.60	7.20
	Railway track side from SWD Culvert to Raghavendra layout road							
	LHS	0	30	1	30.00	1.30	0.15	5.85
				2	30.00	0.20	0.60	7.20
		30	37.6	1	7.60	1.30	0.15	1.48
				2.00	7.6	0.20	0.60	1.82
	6th Cross to Welding Shop CC Road	**200**	**215**	1	15.00	6.50	0.16	15.60
		215	**230**	1	15.00	6.50	0.16	15.60
		230	**245**	1	15.00	6.50	0.16	15.60
		240	**244**	1	4.00	6.50	0.16	4.16
							Total	**167.04**
					Limited to Tendered Qty			**158.63**
								Cum

Assistant Engineer
Ward No.12
BBMP, Bengaluru
04/11/2020

Assistant Executive Engineer
Shettyhalli Sub Divison
BBMP, Bengaluru
4/11

Scanned with CamScanner

BRUHATH BANGALORE MAHANAGARA PALIKE
DASARAHALLI ZONE

Name of work : Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

First and FinalBill

Measurement Recorded in :

Sl. No	Description of work	Chainages		No	L	B1	B2	D	Qty
9	Construction of granular sub-base Grading-V as Sub-base and drainage layer by providing coarse graded crushed stone aggregates of granite/ trap/basalt material, mixing in a mechanical mix plant at OMC, Carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the 98 % proctor density, complete as per specifications. Clause 401 of MORTH V Revision.etc., complete as per specifications and as per the direction of Engineer-in-charge of the work. (PW,P& IWTD SR 2018-19, Pg No 153 Item No.20.5)								
	Towards SWD Culvert	**0**	**6**	1	6.00	7.00	7.00	0.15	6.30
	SWD Culvert to End	**0**	**15**	1	15.00	9.10	11.20	0.18	26.64
		15	**30**	1	15.00	11.20	11.70	0.18	30.06
		30	**45**	1	15.00	11.70	12.20	0.18	31.37
		45	**60**	1	15.00	12.20	12.40	0.18	32.29
		60	**75**	1	15.00	12.40	12.50	0.18	32.68
		75	**90**	1	15.00	12.50	11.40	0.18	31.37
		90	**105**	1	15.00	11.40	11.70	0.18	30.32
		105	**120**	1	15.00	11.70	11.00	0.15	25.54
		120	**135**	1	15.00	11.00	7.60	0.15	20.93
		135	**150**	1	15.00	7.60	8.30	0.15	17.89
		150	**165**	1	15.00	8.30	8.60	0.15	19.01
	NEW CULVERT TO WELDING SHOP								
		165	**180**	1	15.00	7.00	7.00	0.15	15.75
		180	**195**	1	15.00	7.00	7.00	0.15	15.75
		195	**210**	1	15.00	7.00	7.00	0.15	15.75
		210	**225**	1	15.00	7.00	7.00	0.15	15.75
		225	**240**	1	15.00	7.00	7.00	0.15	15.75
		240	**244**	1	4.00	7.00	7.00	0.15	4.20
								Total	**387.34**
Limit						**Limited to Tenderd Quantity**			**380.7**

Cum

Assistant Engineer
Ward No.12
BBMP, Bengaluru
25/4/2020

Assistant Executive Engineer
Shettyhalli Sub Divison
BBMP, Bengaluru

Scanned with CamScanner

BRUHATH BANGALORE MAHANAGARA PALIKE
DASARAHALLI ZONE

Name of work : Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

First and FinalBill

Measurement Recorded in :

Sl. No	Description of work	Chainages		No	L	B1	B2	D	Qty
10	**CONCRETE PAVEMENT** KSRRB M600- Cement Concrete Pavements KSRRB M600-1.Providing and Constructing dry lean cement concrete mix CC 1:5:10 base with OPC 25mm and down size graded granite metal coarse aggregate at 0.86cum and fine aggregates @0.58cum over a prepared sub-base, coarse and fine aggregate conforming to IS: 383-2016,aggregate cement ratio not to exceed 15:1, Aggregate gradation after blending to be as per Table 600-1 ,optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a hatching plant, transported to site,laid with a paver, compacting with 8-10 tonnes vibratory roller, finishing and curing complete as per specifications. Clause 601of MORTH V Revision and IS 456 Table-5 -do- with OPC at 150 kg/cum and coarse aggregate 0.86cum, fine aggregate 0.58cum using Concrete Batch mix Plant at 75 cum/hr capacity with fixed form paver. (PW,P& IWTD SR 2018-19 P- 174, I-22.1.2)								
	Towards SWD Culvert			1	6.00	7.00	7.00	0.15	6.30
	SWD Culvert to End	**0**	**15**	1	15.00	9.10	11.20	0.18	27.41
		15	**30**	1	15.00	11.20	11.70	0.18	30.92
		30	**45**	1	15.00	11.70	12.20	0.18	32.27
		45	**60**	1	15.00	12.20	12.40	0.18	33.21
		60	**75**	1	15.00	12.40	12.50	0.18	33.62
		75	**90**	1	15.00	12.50	11.40	0.18	32.27
		90	**105**	1	15.00	11.40	11.70	0.18	31.19
		105	**120**	1	15.00	11.70	11.00	0.15	25.54
		120	**135**	1	15.00	11.00	7.60	0.15	20.93
		135	**150**	1	15.00	7.60	8.30	0.15	17.89
		150	**165**	1	15.00	8.30	8.60	0.15	19.01
	NEW CULVERT TO WELDING SHOP								
		165	**180**	1	15.00	7.00	7.00	0.15	15.75
		180	**195**	1	15.00	7.00	7.00	0.15	15.75
		195	**210**	1	15.00	7.00	7.00	0.15	15.75
		210	**225**	1	15.00	7.00	7.00	0.15	15.75
		225	**240**	1	15.00	7.00	7.00	0.15	15.75
		240	**244**	1	4.00	7.00	7.00	0.15	4.20
								Total	**393.47**
					Limited to Tendered Qty				**380.70 Cum**

Assistant Engineer
Ward No.12
BBMP, Bengaluru
27/4/2020

Assistant Executive Engineer
Shettyhalli Sub Divison
BBMP, Bengaluru
27/4

Scanned with CamScanner

BRUHATH BANGALORE MAHANAGARA PALIKE
DASARAHALLI ZONE

Name of work : Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

First and FinalBill

Measurement Recorded in :

Sl. No	Description of work	Chainages		No	L	B			
						B1	B2	D	Qty
11	Constructing un-reinforced, plain cement concrete for pavements using Grade concrete M30 over a prepared base with OPC coarse aggregate at 0.69 cum, fine aggregates at 0.46 cum,Coarse and fine aggregate conforming to18:383-2016, with Superplastizer at 3 Its conforming to IS 9103-2008. mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the form work as per drawing). & Spreading the concrete with shovels, rackers compacted using needle, screed and plate vibrator and finished with floaters in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, including groove cutting charges, joint filler, separation membrane of impermiable plastic sheet of 125 micron, sealant primer, joint sealant, admixtures as approved, curing compound, finishing to lines and grades,textured with texturing machine, and curing including cost of all materials, labour,hire charges of machineries,all lead & lift charges etc., complete as per specifications. -do- with OPC at 360 kg/cum and coarse aggregate 0.69cum, fine aggregate 0.46cum. (PW,P& IWTD SR 2018-19, Pg No 176 Item No. 22.6.1)								
	Towards SWD Culvert	**0**	**6**	1	6.00 -	7.00 -	7.00 -	0.150 -	6.30
	SWD Culvert to End	**0**	**15**	1	15.00	9.10	11.20	0.150	22.84
		15	**30**	1	15.00	11.20	11.70	0.150	25.76
		30	**45**	1	15.00	11.70	12.20	0.150	26.89
		45	**60**	1	15.00	12.20	12.40	0.150	27.68
		60	**75**	1	15.00	12.40	12.50	0.150	28.01
		75	**90**	1	15.00	12.50	11.40	0.150	26.89
		90	**105**	1	15.00	11.40	11.70	0.150	25.99
		105	**120**	1	15.00	11.70	11.00	0.150	25.54
		120	**135**	1	15.00	11.00	7.60	0.150	20.93
		135	**150**	1	15.00	7.60	8.30	0.150	17.89
		150	**165**	1	15.00	8.30	8.60	0.150	19.01
	NEW CULVERT TO 6TH CROSS								
		165	**180**	1	15.00 -	6.50 -	6.50 -	0.160 -	15.60
		180	**195**	1	15.00 -	6.50 -	6.50 -	0.160 -	15.60
		195	**200**	1	5.00 -	6.50 -	6.50 -	0.160 -	5.20
								Total	**310.11**
						Limited to Tendered Qty			**309.00**
									Cum

Assistant Engineer
Ward No.12
BBMP, Bengaluru
06/12/2020

Assistant Executive Engineer
Shettyhalli Sub Divison
BBMP, Bengaluru
6/12

Scanned with CamScanner

BRUHATH BANGALORE MAHANAGARA PALIKE
DASARAHALLI ZONE

Name of work : Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

First and FinalBill

Measurement Recorded in :

Sl. No	Description of work	No	L	B	D	Qty
12	KSRRB M2200- Providing Weep Holes 28.10 KSRRB M2200-8. Providing weep holes in Brick masonry I Plain / Reinforced concrete abutment, wing wall / return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing force. Complete as per drawing and Technical Specifications including cost of materials, labour, HOM complete as per specifications. MORTH Specification No.2706 & 2200					
	For 256.1 mtr length drain 1mtr intervals					
	2 SIDES	217	2.00			434.00
						0.00
					Total	434.00

Assistant Engineer
Ward No.12
BBMP, Bengaluru
18/12/2020

Assistant Executive Engineer
Shettyhalli Sub Divison
BBMP, Bengaluru
18/12

Scanned with CamScanner

BRUHATH BANGALORE MAHANAGARA PALIKE
DASARAHALLI ZONE

Name of work : Improvements to Concrete Roads in Gatepalya Shettyhalli in ward no.12, Shettyhalli Sub Division.

First and FinalBill

Measurement Recorded in :

Sl. No	Description of work	No	L	B	D	Qty
13	Providing and fixing RCC name board of size 1.35xk0.60x0.04 mtrs fixed Each 5,500.00 in reinforced cement concrete poles of size 0.10x0.10x2.60mtrs in cement concrete M 20 proportion using 20mm and down size graded metal machine mixed with 10mm dia main steel bars and 8mm dia stirups. The board shall be provided with 12mm thick cement plaster in cement mortar 1:3 on both the sides. The poles shall be embedded in the ground for a depth of 0.5 mtrs with cement concrete M 10 proportion. The board shall be fixed as per the drawing and at the place indicated by the Engineer incharge of the work. The cost includes excavation, bare cost of all materials, cost of steel, centering, transportation charges, fixing charges, labour, HOM etc., The work shall be carried out as per the detailed specifications, drawings and directions of the Engineer in charge of the work. (PW,P& IWTD SR 2018-19, Pg No 271 Item No. 37.60)					
	Towards SWD Culvert	**1**				**1.00**
	SWD Culvert to End	**2**				**2.00**
					Total	**3.00**

Assistant Engineer
Ward No.12
BBMP, Bengaluru
18/12/2020

Assistant Executive Engineer
Shettyhalli Sub Divison
BBMP, Bengaluru
18/12

Scanned with CamScanner